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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
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EXAMINER
THOMPSON JR, F

ART UNIT	PAPER NUMBER
2165	2

DATE MAILED: 10/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

X Responsive to communication(s) filed on _Jul 23, 1999_

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire _____ *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

X Claim(s) _1-41_ is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

X Claim(s) _1-41_ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

X See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

X The drawing(s) filed on _____ Jul 23, 1999 _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

X Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

X Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- *SEE OFFICE ACTION ON THE FOLLOWING PAGES* ---

DETAILED ACTION

1. Claims 1-41 have been examined.

Drawings

2. New formal drawings are required in this application because the Draftsperson has objected to the drawings as submitted by applicant (see Form PTO 948). Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defects can be deferred until the application is allowed by the examiner.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of 37 CFR 1.71(a)-(c):

> (a)   The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

5.   The specification is objected to under 37 CFR 1.71 because the specification does not set

forth the computer program listing that encompasses the invention.

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and
> distinctly claiming the subject matter which the applicant regards as his invention.

7.   The independent claims (claims 1, 24, and 41) state "the price" (e.g., claim 1 at line 3,

line 7 and line 8 on pg. 37). On line 3 of claim 1, "the price" should be changed to read "a price"

to provide proper antecedent basis. Similar changes should be accomplished in claims 24 and

41.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
>
> States before the invention thereof by the applicant for patent, or on an international application by another who
>
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
>
> thereof by the applicant for patent.

9.   Claims 24 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by **Borgato** (U.S. Patent No. 5,950,178).

As per claim 24, **Borgato** discloses:

-       a display device (col. 2 lines 36-38);

-       an input device (col. 2 lines 36-38);

-       a computer (col. 2 lines 36-38);

-       a comparator for comparing all incoming orders relative to outgoing orders (col. 2 lines 17-52; col. 3 lines 4-30); and

-       a sorter that resequences the orders in real-time in the display field (col. 12 lines 31-67; col. 13 lines 1-15).

As per claim 41, **Borgato** discloses:

-       a variable number of trader terminals for entering an order for an item (col. 2 lines 17-34)

-       controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs (a) each algorithm with its corresponding constraints (col. 2 lines 17-34);

-       means for matching, in accordance with the constraints and conditions, algorithmic buy orders with algorithmic sell orders (col. 3 lines 4-30); and

-       means for matching or comparing, in accordance with constraints and conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders (col. 2 lines 17-52).

Claim Rejections - 35 USC § 103

10.　　The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11.　　Claims 1-8, 10-23 and 25-40 are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Borgato** (U.S. Patent No. 5,950,178) and **Broka et al.** (U.S. Patent No. 5,809,483).

　　　　As per claim 1, **Borgato** discloses:

-　　　　a variable number of trader terminals for entering an order for a security (col. 2 lines 17-

34)

-       at least one controller computer coupled to each of the trader terminals over a network

and receiving as inputs (a) each algorithm with its corresponding constraints (col. 2 lines 17-34);

-       means for matching, in accordance with the constraints and conditions, algorithmic buy

orders with algorithmic sell orders (col. 3 lines 4-30); and

-       means for matching or comparing, in accordance with constraints and conditions,

algorithmic buy/sell orders with non-algorithmic sell/buy orders through the use of external

multiple data sources (col. 2 lines 17-52).

Borgato does not disclose (b) at least one external price feed depicting prices of various

securities and contracts from multiple exchanges. **However, Broka et al.** discloses *some of the*

external data files associated with FIPS are a Standard & Poor's file, such as file 300, in FIG. 3,

CTCI input and output files for communication with users' computers, a BQDS journal file

containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file.

The CBCS log file includes trade reports and updates, quotes and updates, trading halts and

resumptions... (col. 7 lines 34-47). It would have been obvious to one skilled in the art at the

time the invention was made to combine **Borgato** and **Broka et al.** to disclose at least one

external price feed depicting prices of various securities and contracts from multiple exchanges,

because this can be necessary information for traders in trading securities.

As per claim 2, **Borgato** discloses the order price, as represented by an algorithm,

includes an order quantity subject to another algorithm (col. 2 lines 17-52).

As per claim 3, **Borgato** discloses the controller computer matches/compares orders in real-time as each order is received at the controller computer and as each new price of each other conditional security is received at the controller computer (col. 3 lines 4-30).

As per claim 4, **Borgato** discloses means for maintaining the identity of the terminal on which the order was entered (col. 3 lines 41-56).

As per claim 5, Official Notice is taken that minimum and maximum acceptable prices for products/items/etc. are old and well known in the art. Minimum and maximum acceptable or threshold prices are used to set the acceptable price range and reduce the submission of bids/quotes/offers that will not necessarily be accepted. These prices may be determined by comparison of historical data for securities, since the users are concerned with securities. **Borgato** discloses graphing sales/offer data (fig. 6 [60]; col. 10 lines 18-39). Official Notice is taken that by graphing historical data, a user may determine a price acceptable to him that meet the price range of previous sales or acquisitions (e.g., minimum or maximum acceptable prices). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine old and well known art with **Borgato** and **Broka et al.** to disclose the order algorithm can be represented as a line in two dimensional space with constraints having the price of one security as one axis and the price of another security as its other axis, because this increases the utility of the invention through comparison of data, as well as making it more appealing (understandable) to users.

As per claims 6-7, 10-15 and 30-35, Official Notice is taken that in the stock market environment, the instrument to be traded, bought or sold may include bonds, warrants, convertible securities, options, futures, forward contracts, swap contracts. Instruments are determined by the current market as determined by users. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine old and well known art with **Borgato** and **Broka et al.** to disclose the instrument may include bonds, warrants, convertible securities, options, futures, forward contracts, swap contracts, because these are desirable to participants/users in the stock market.

As per claim 8, **Borgato** discloses the independent variable may include multiple independent variables (col. 3 lines 4-30).

As per claims 16-18 and 36-39, Official Notice is taken that the possible dependency of the price on one or more of several factors (such as current value, a volatility, a yield, or a yield spread) is old and well known in the art. These are factors that can influence desirability of particular security instruments to buyers and sellers. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine old and well known art with **Borgato** and **Broka et al.** to disclose the price may be a current value, a volatility, a yield, or a yield spread, because this affects the desirability of purchasing or selling a security instrument and influences buyers and sellers.

As per claims 19-23, Official Notice is taken that the use of rules to manipulate data fields were old and well known in the art at the time the invention was made. Database applications/systems utilize rules to determine the manner in which particular data fields may be manipulated in a database. Generally, these rules predetermine the manner in which identified data fields may be manipulated in database operations. The use of such rules is allowed (or required) most database applications. Therefore, it would have been obvious to one skilled in the art to combine old and well known art with **Borgato** and **Broka et al.** to disclose one of the conditions is: the requirement that another security is traded contemporaneously; that no transaction can occur when the independent variable is above or below set limits; that the price is not to exceed a specified level regardless of the results produced by the algorithm; that the price is not to be less than a specified level regardless of the results produced by the algorithm; or the requirement that the orders be matched/compared without the use of prices fed from said external multiple exchanges, because these are old and well known, as well as obvious, requirements used in the securities markets.

Claim 25 is written as an apparatus and contains the same limitations as claim 2; therefore, the same rejection is applied.

Claim 26 is written as an apparatus and contains the same limitations as claim 3; therefore, the same rejection is applied.

Claim 27 is written as an apparatus and contains the same limitations as claim 4; therefore, the same rejection is applied.

Claim 28 is written as an apparatus and contains the same limitations as claim 5; therefore, the same rejection is applied.

Claim 29 is written as an apparatus and contains the same limitations as claim 9; therefore, the same rejection is applied.

Claim 30 is written as an apparatus and contains the same limitations as claim 10; therefore, the same rejection is applied.

Claim 31 is written as an apparatus and contains the same limitations as claim 11; therefore, the same rejection is applied.

Claim 32 is written as an apparatus and contains the same limitations as claim 12; therefore, the same rejection is applied.

Claim 33 is written as an apparatus and contains the same limitations as claim 13; therefore, the same rejection is applied.

Claim 34 is written as an apparatus and contains the same limitations as claim 14; therefore, the same rejection is applied.

Claim 35 is written as an apparatus and contains the same limitations as claim 15; therefore, the same rejection is applied.

As per claim 39, Official Notice is taken that traders make decisions relative to buying

and selling that are influenced by current values of securities. To make a profit, traders must buy

and sell securities at values that profit them. It would have been obvious to one skilled in the art

at the time the invention was made to combine **Borgato, Broka et al** and old and well known art

to disclose the relative favorability is determined by the current value of the underlying security,

because this influences the profitability to the trader.

As per claim 40, **Borgato** discloses:

- said display device further includes a ticker field, for displaying:

    -- changing security values from external markets (col. 13 lines 24-31); and

    -- current order information of the algorithms to be negotiated/traded (col. 13 lines

24-31); and

- a wild card field (col. 10 lines 60-63).

12.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borgato and Broka

et al. as applied to claim 1 above, and further in view of **Garber** (U.S. Patent No. 5,963,923).

As per claim 9, **Borgato** and **Broka et al.** do not disclose the sell order includes a sell

short order. However, **Garber** discloses the sell order includes a sell short order (col. 6 lines 45-

62), in the sell of futures. Therefore, it would have been obvious to one skilled in the art at the

time the invention was made to combine **Borgato, Broka et al.** and **Garber** to disclose the sell

order includes a sell short order, because this is a desirable feature/capability to traders/users.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

-      **Silverman et al.** (U.S. Patent No. 5,136,501) discloses a matching system for trading

instruments in which bids are automatically matched against offers for given trading instruments

for automatically providing matching transactions in order to complete trades for the given

trading instruments.

-      **Silverman et al.** (U.S. Patent No. 5,924,082) discloses a negotiated matching system

includes a plurality of remote terminals associated with respective potential counterparties, a

communications network for permitting communication between the remote terminals, and a

matching station.

-      **Silverman et al.** (U.S. Patent No. 5,924,083) discloses A distributed electronic trading

system for displaying a real-time credit filtered view of at least one market in which financial

instruments are traded in which the market view includes a predetermined number of orders

currently available to a viewing trading entity based upon one or more credit limits entered by the

viewing trading entities and/or other trading entities in the system.

-    **Molinari** (U.S. Patent No. 6,016482) discloses a computer system is provided for

implementing, managing and tracking financial transactions.

14.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Forest Thompson whose telephone number is (703) 306-5449. The

examiner can normally be reached Monday-Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tod Swann, can be reached at (703) 308-7791.

The fax number for Formal or Official faxes to Technology Center 2100 is (703) 308-

9051 or 9052. Draft or Informal faxes can be submitted to (703) 308-5357.

Any inquiry of a general nature or relating to the status of this application should be

directed to the Group receptionist whose telephone number is (703) 305-3900.

October 6, 2000 /FOT

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2165